

What is claimed is:

AGR 2000/M 226 US

1. A nucleic acid molecule with the function of a caryopsis-specific promoter, which nucleic acid molecule
- 5 a) comprises the nucleic acid sequence defined by Seq ID No. 1 or deposited by DSM 13398 (plasmid p 11/1);
- b) comprises one or more sequence elements selected from the group consisting of
- 10 i) cacgcaaagg cgcgctggcc agccacgac (Seq ID No. 2);
ii) agaaaacaaac aaacaaacaa aaaagt (Seq ID No. 3);
iii) ccttcagga cgatgcttcg gtgcctaag acacctacc tttgtgtcta tgacatgtga
gccccaaacag atggct (Seq ID No. 4);
iv) cccgtctagg cggtcggtgt ccggcc (Seq ID No. 5);
v) cagggagcct tcga (Seq ID No. 6);
015 vi) tcagccagtt ccaccccggtg cacg (Seq ID No. 7) and
vii) tactctggtc atgttaa (Seq ID No. 8);
- c) comprises a functional portion of the nucleic acid sequence stated under a);
- d) comprises a sequence which hybridizes with at least one of the nucleotide sequences stated under a) and/or b); and/or
- 20 e) comprises a sequence which has approx. 60-99% identity, preferably approx. 75-99% identity, in particular approx. 90-99% identity and very especially preferably approx. 95-99% identity with one of the nucleic acid sequences stated under a).
- 25 2. A nucleic acid molecule as claimed in claim 1, which is a promoter active in plants.
3. An expression cassette comprising a nucleic acid molecule as claimed in claim 1.
- 30 4. A vector comprising a nucleic acid molecule as claimed in claim 1 or an expression cassette as claimed in claim 3.

5. A vector as claimed in claim 4 which is suitable for transforming plant cells.
6. A host cell which is genetically modified with a nucleic acid molecule as
5 claimed in claim 1, with an expression cassette as claimed in claim 3 or with a
vector as claimed in claim 4.
7. A host cell as claimed in claim 6, which is a pro- or eukaryotic cell.
- 10 8. A host cell as claimed in claim 6, which is a plant cell.
9. A plant comprising plant cells as claimed in claim 8.
- 15 10. Propagation material or harvested material from plants as claimed in claim 9,
comprising plant cells as claimed in claim 8.
11. A method of generating transgenic plant cells as claimed in claim 8, wherein
plant cells, plant tissue, plant parts or protoplasts are transformed with a nucleic
acid molecule as claimed in claim 1, a vector as claimed in claim 4, with an
20 expression cassette as claimed in claim 3 or with a host cell as claimed in claim 6,
and the transformed plant cells, plant tissues, plant parts or protoplasts are grown in
a growth medium.
12. A method of generating transgenic plants as claimed in claim 9, wherein plant
25 cells, plant tissue, plant parts or protoplasts are transformed with a nucleic acid
molecule as claimed in claim 1, a vector as claimed in claim 4, with an expression
cassette as claimed in claim 3 or with a host cell as claimed in claim 6, the
transformed plant cells, plant tissues, plant parts or protoplasts are grown in a
growth medium, and intact plants are regenerated from these.

13. The use of a nucleic acid molecule as claimed in claim 1 for the caryopsis-specific expression of genes in genetically modified plants.
14. The use of a nucleic acid molecule as claimed in claim 1 for the caryopsis-specific suppression of genes in genetically modified plants.
15. A method for the caryopsis-specific gene expression in plants, wherein a nucleic acid molecule as claimed in claim 1 is stably integrated into the genome of a plant cell, and the plant is regenerated from said plant cell.
16. A method for the caryopsis-specific gene suppression in plants, wherein a nucleic acid molecule as claimed in claim 1 is stably integrated into the genome of a plant cell, and a plant is regenerated from said plant cell.

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